

# Healthy People 2020

# Promoting Health and Preventing Disease Throughout the Nation

## Focus Area: Diabetes

# Sanford Garfield

## Senior Advisor

NIDDK/NIH





# Today's Focus Area Presentations

Background and History of Healthy People

Development of Healthy People 2020

Healthy People 2020 Framework, Topic Areas, and Objectives

Diabetes Focus Area

Nutrition and Weight Status

Heart Disease and Stroke Focus Area

Using Healthy People 2020



[illegible]



# What Is “Healthy People”?




A **national agenda** that communicates a vision for improving health and achieving health equity.

A set of specific, **measurable objectives** with targets to be achieved over the decade.

These objectives are organized within distinct **Topic Areas**.



# Evolution of Healthy People

Target Year	1990	2000	2010	2020
				
<b>Overarching Goals</b>	<ul style="list-style-type: none"> <li>Decrease mortality: infants–adults</li> <li>Increase independence among older adults</li> </ul>	<ul style="list-style-type: none"> <li>Increase span of healthy life</li> <li>Reduce health disparities</li> <li>Achieve access to preventive services for all</li> </ul>	<ul style="list-style-type: none"> <li>Increase quality and years of healthy life</li> <li>Eliminate health disparities</li> </ul>	<ul style="list-style-type: none"> <li>Attain high-quality, longer lives free of preventable disease</li> <li>Achieve health equity; eliminate disparities</li> <li>Create social and physical environments that promote good health</li> <li>Promote quality of life, healthy development, healthy behaviors across life stages</li> </ul>
<b>Focus areas</b>	15	22	28	39*

\* With objectives





# Healthy People 2020 Mission

Identify nationwide health improvement priorities.

Increase public awareness and understanding of the determinants of health, disease, and disability and the opportunities for progress.

Provide measurable objectives and goals that are applicable at the national, State, and local levels.





# Web Site:

## [www.healthypeople.gov](http://www.healthypeople.gov)

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### Get to Know Healthy People 2020

Introducing Healthy People 2020: Find out about the history, development and launch of Healthy People 2020.

[Read More](#)



### Closer Look: Health Disparities

Compare the Top 10 Causes of Death across Populations

Race/Ethnicity:

Age Range:

[Get Your Results](#)



[How to Use HealthyPeople.gov](#)



[Get the Healthy People 2020 brochure](#)

### What's New for 2020

Don't miss these new Topic Areas, tools, and more.



### Spotlight

Healthy People Implementation Conference: Coming in Spring 2012



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[Healthy People 2010 Archive](#) | [Healthfinder.gov](#)



A Federal Government Web site managed by the [U.S. Department of Health and Human Services](#)  
200 Independence Avenue, S.W., Washington, DC 20201





# Healthy People 2020 Objectives

Represent quantitative values to be achieved over the decade.

Organized within the Topic Areas.

Managed by lead Federal agencies.

Supported by scientific evidence.

Address population disparities.

Data driven and prevention oriented.



# Topic Area A-Z Listing

Select a Topic Area from the list below to get started. Each topic area includes a topic area overview, objectives and data, and evidence-based resources.

[Download all Healthy People 2020 objectives \[PDF - 2 MB\].](#)

[Download all Healthy People 2020 objectives in spreadsheet format \[XLSX - 159 KB\].](#)

If you experience problems viewing documents, please download the latest version of the [Viewer or Player](#).

## A

Access to Health Services  
Adolescent Health *New*  
[Arthritis, Osteoporosis, and Chronic Back Conditions](#)

## B

Blood Disorders and Blood Safety *New*

## C

Cancer  
Chronic Kidney Disease

## D

Dementias, Including Alzheimer's Disease *New*  
[Diabetes](#)  
Disability and Health

## E

Early and Middle Childhood *New*  
Educational and Community-Based Programs  
Environmental Health

## F

Family Planning  
Food Safety

## G

Genomics *New*  
Global Health *New*

## H

Health Communication and Health Information Technology  
Healthcare-Associated Infections *New*  
Health-Related Quality of Life & Well-Being *New*  
Hearing and Other Sensory or Communication Disorders  
Heart Disease and Stroke  
HIV

## I

Immunization and Infectious Diseases  
Injury and Violence Prevention

## L

Lesbian, Gay, Bisexual, and Transgender Health *New*

## M

Maternal, Infant, and Child Health  
Medical Product Safety  
Mental Health and Mental Disorders

## N

[Nutrition and Weight Status](#)

## O

Occupational Safety and Health  
Older Adults *New*  
Oral Health

## P

Physical Activity  
Preparedness *New*  
Public Health Infrastructure

## R

Respiratory Diseases

## S

Sexually Transmitted Diseases  
Sleep Health *New*  
Social Determinants of Health *New*  
Substance Abuse

## T

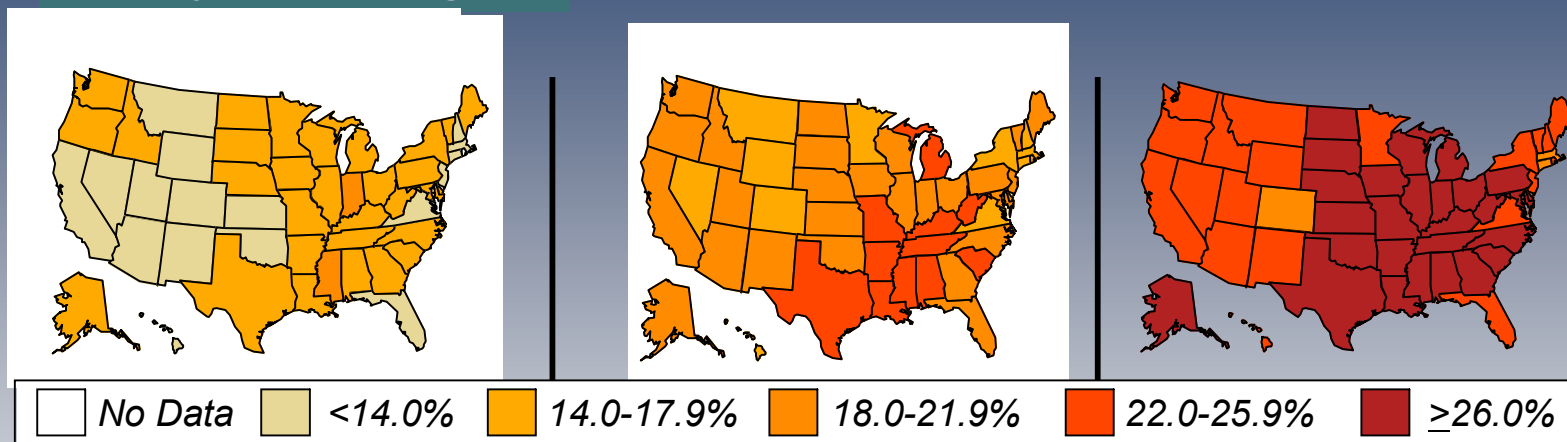
Tobacco Use

## V

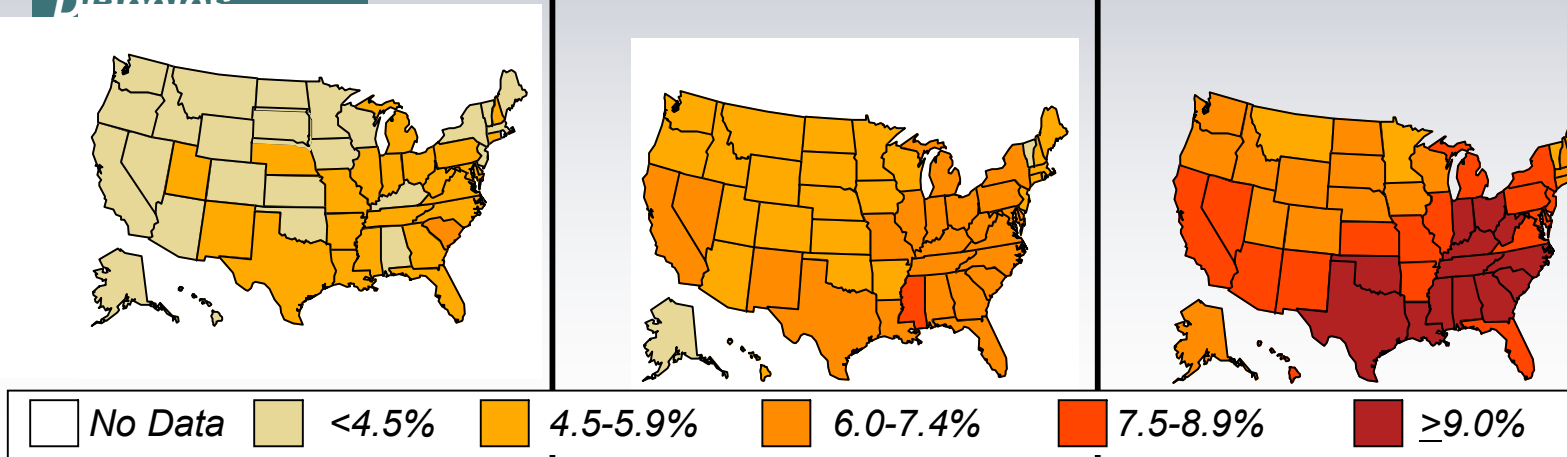
Vision

# Age-adjusted Percentage of U.S. Adults Who Were Obese or Who Had Diagnosed Diabetes

## Obesity (BMI $\geq 30$ kg/m<sup>2</sup>)



## Diabetes



1994

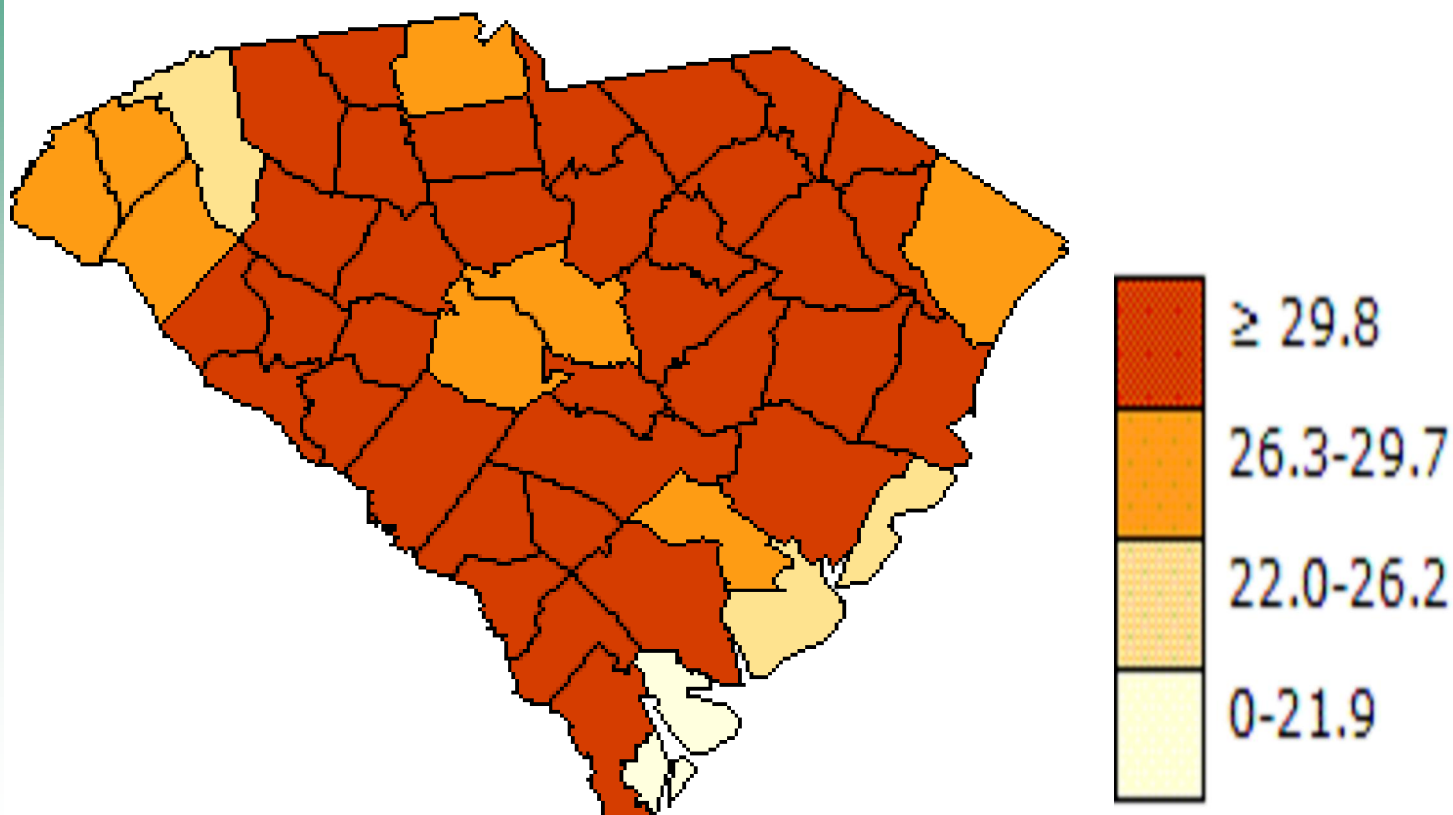
2000

2008



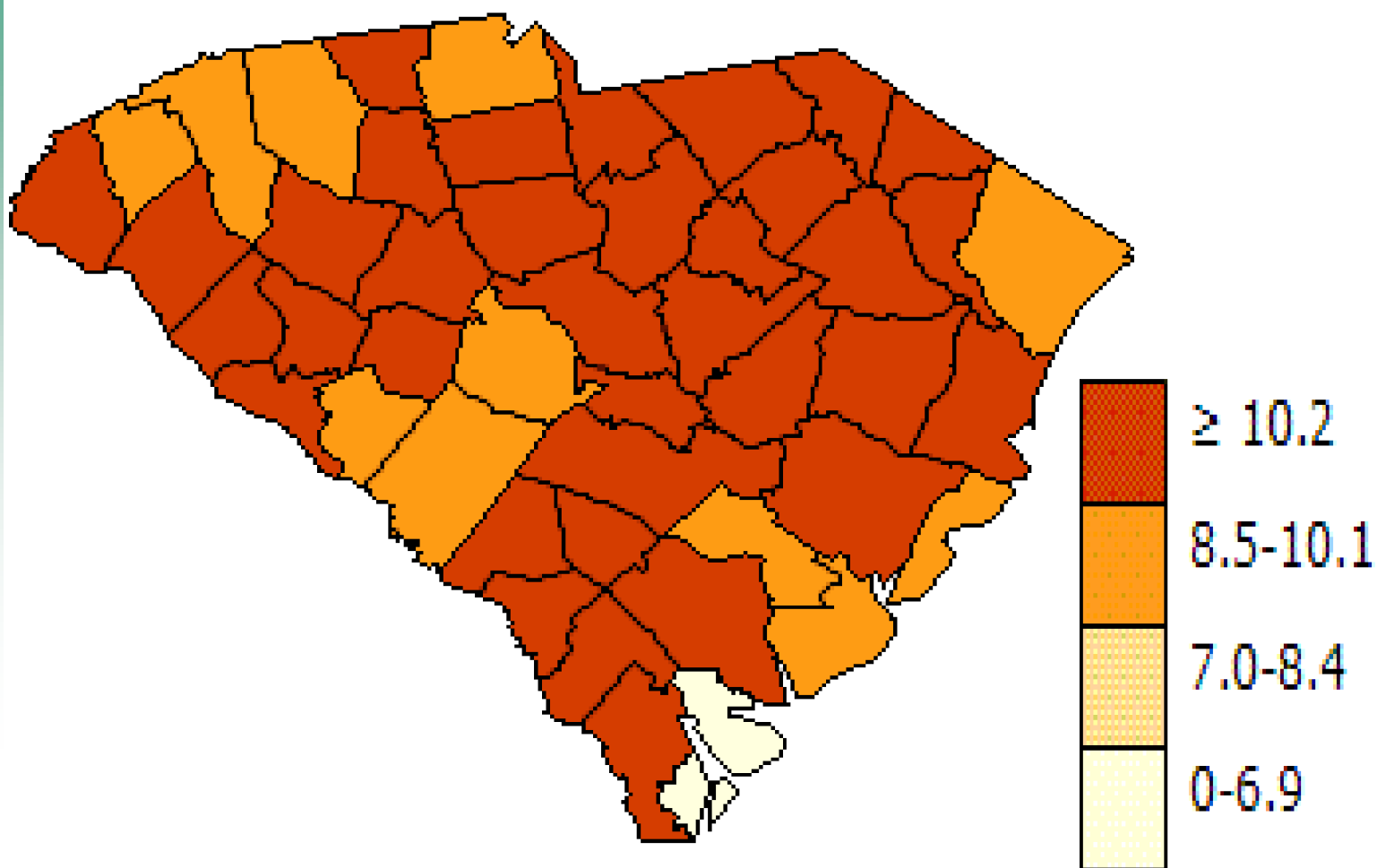


# South Carolina Obesity Percentage of Adults



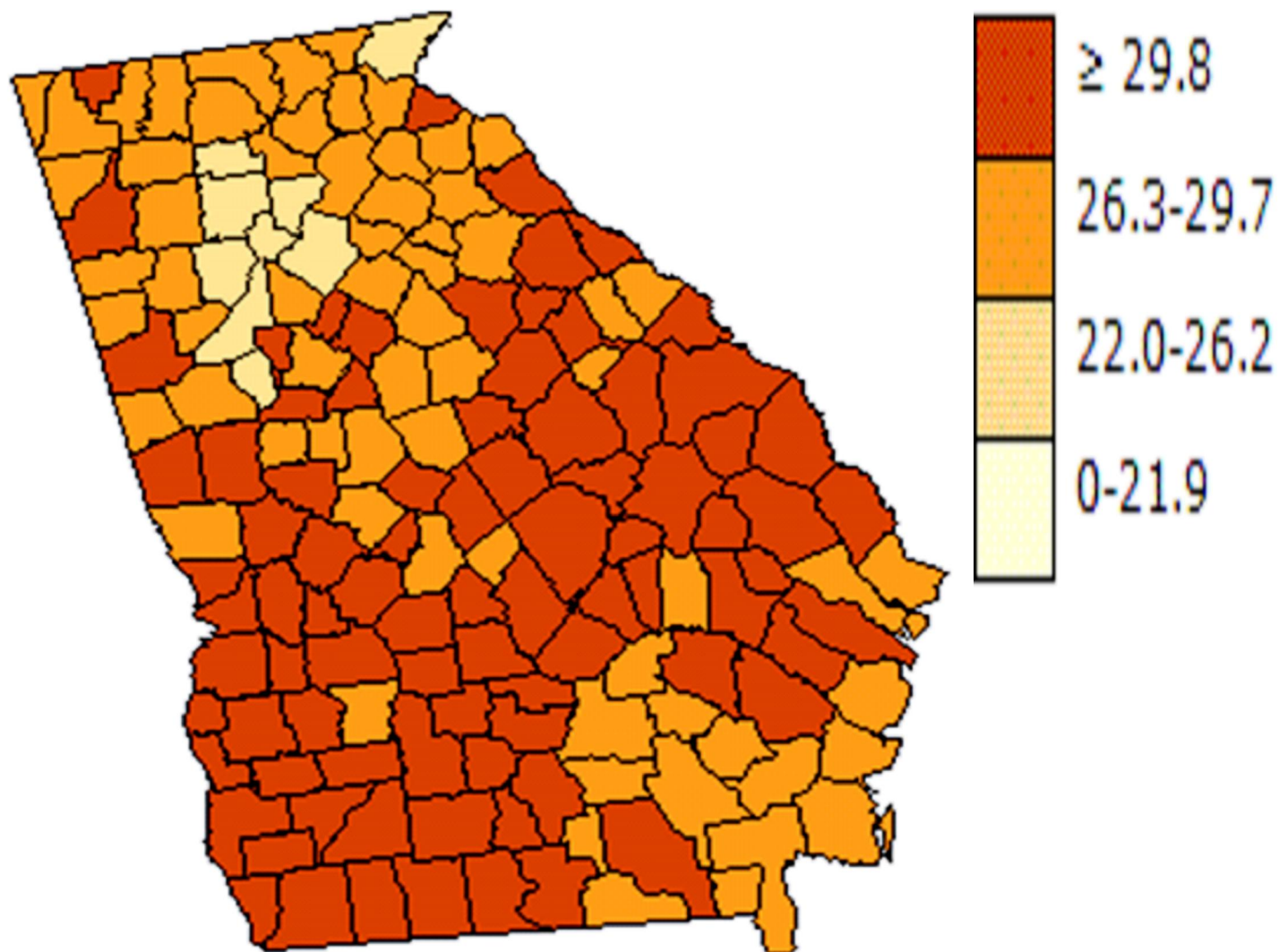


## South Carolina Diabetes Percentage of Adults



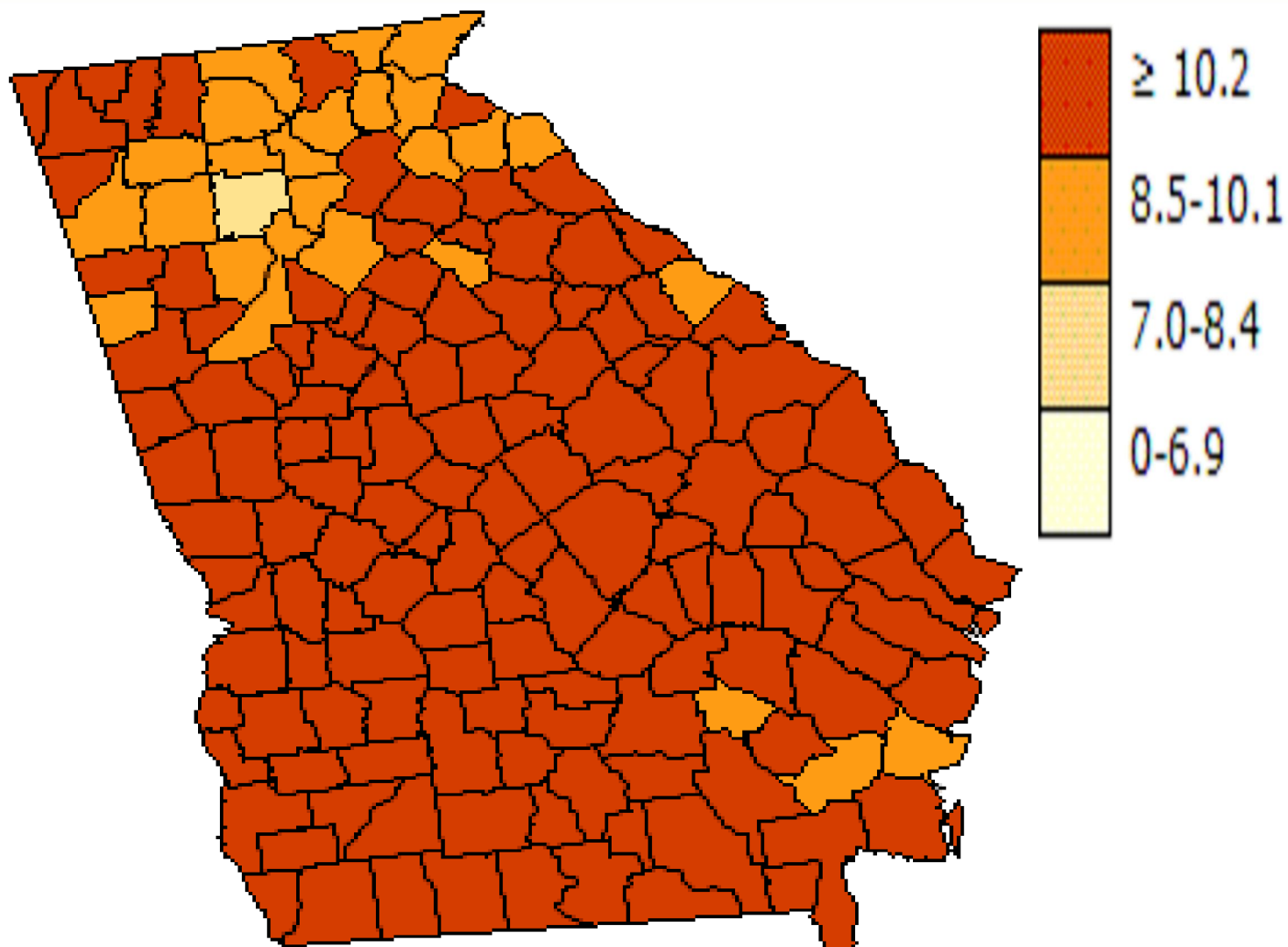


# Georgia Obesity percentage of adults





# Georgia Diabetes Percentage of Adults





# Topic Area-Specific Interventions & Resources

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[Home](#) > [2020 Topics & Objectives](#) > Maternal, Infant, and Child Health

## Maternal, Infant, and Child Health



[Overview](#)

[Objectives](#)

[Interventions & Resources](#)

Find evidence-based information and recommendations related to maternal, infant, and child health.

[Clinical Recommendations](#)

[Community Interventions](#)

[Consumer Information](#)

### Clinical Recommendations

The following clinical recommendations come from the [US Preventive Services Task Force \(USPSTF\)](#).

#### Counseling and Interventions to Prevent Tobacco Use and Tobacco-Caused Disease in Adults and Pregnant Women

The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians ask all pregnant women about tobacco use and provide augmented, pregnancy-tailored counseling for those who smoke. [Learn more](#)

#### Folic Acid for the Prevention of Neural Tube Defects

The U.S. Preventive Services Task Force (USPSTF) recommends that all women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 mg (400 to 800 µg) of folic acid. [Learn more](#)

#### Primary Care Interventions to Promote Breastfeeding

The U.S. Preventive Services Task Force (USPSTF) recommends interventions during pregnancy and after birth to promote and support





# U.S. Diabetes Prevalence All Ages, 2010

25.8 million people have diabetes

- **Diagnosed:** 18.8 million people (includes being told)
  - ❖ Type 1 diabetes accounts for 5% – 10%
  - ❖ Type 2 diabetes accounts for 90% – 95%
- **Undiagnosed:** 7.0 million people



# Diabetes Incidence

A total of **1,900,000** new cases of diabetes were diagnosed in 2010 in the United States among people aged 20 years and older.



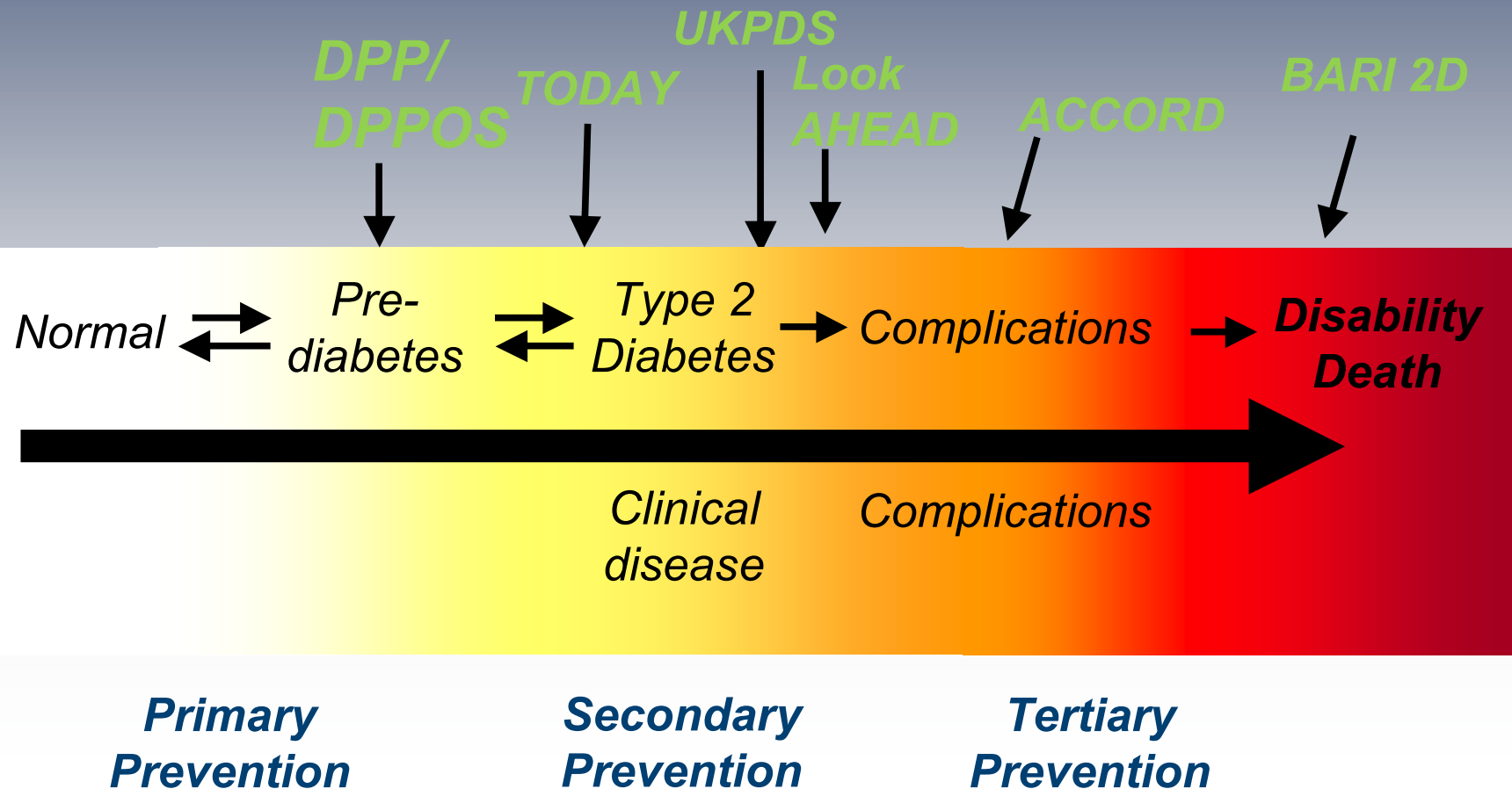
# Pre-Diabetes in the U.S.

At least **79 million** adults ages 20 and older have **pre-diabetes**

Pre-diabetes raises the risk for type 2 diabetes and cardiovascular disease

*NIDDK, National Diabetes Statistics 2007.  
[www.diabetes.niddk.nih.gov/dm/pubs/statistics](http://www.diabetes.niddk.nih.gov/dm/pubs/statistics)*

# Stages in the History of Type 2 Diabetes





# Disease Complications

## Diabetes is the leading cause of:

- kidney failure
- new cases of adult blindness
- nontraumatic lower-limb amputations

## In adults with diabetes:

- the risk of periodontal (gum) disease is two to three times higher
- 60 to 70 % have mild to severe nervous system damage

*NIDDK, National Diabetes Statistics 2007.  
[www.diabetes.niddk.nih.gov/dm/pubs/statisti](http://www.diabetes.niddk.nih.gov/dm/pubs/statisti)  
CS*





# HP2020 Diabetes Objectives

*(paraphrased)*

D-1 Reduce new cases of diabetes

D-2 Reduce diabetes mortality

- D-2.1 Reduce all-cause mortality among people with diabetes
- D-2.2 Reduce deaths caused by cardiovascular disease in people with diabetes

D-3 Reduce deaths caused by diabetes

D-4 Reduce the need for amputations in people with diabetes



# HP2020 Diabetes Objectives

*(paraphrased)*

D-5 Improve glycemic control among the population with diagnosed diabetes

- D-5.1 Reduce the proportion of the diabetic population with an A1c value greater than 9 percent
- D-5.2 Increase the proportion of the diabetic population with an A1c value less than 7 percent

D-6 Improve lipid control among persons with diagnosed diabetes (Developmental)

D-7 Increase the proportion of the population with diagnosed diabetes whose blood pressure is under control

D-8 Increase the proportion of persons with diagnosed diabetes who have at least an annual dental examination



# HP2020 Diabetes Objectives (*paraphrased*)

***Among people with diabetes,  
increase the proportion of...***

D-9 Annual foot exams

D-10 Annual dilated eye exams

D-11 A1c tests at least twice a year

D-12 Annual urinary microalbumin  
measurement



# HP2020 Diabetes Objectives

*(paraphrased)*

***Among people with diabetes,  
increase the proportion...***

- D-13 Who perform self blood glucose monitoring at least once daily
- D-14 Who receive formal diabetes education
- D-15 Whose condition has been diagnosed



# HP2020 Diabetes Objectives

*(paraphrased)*

D-16 Increase prevention behaviors in people at high risk for diabetes

**Increase the proportion of...**

- D-16.1 People with pre-diabetes who report increasing their physical activity
- D-16.2 People with pre-diabetes who report trying to lose weight
- D-16.3 People with pre-diabetes who report reducing the amount of fat or calories in their diet



## **Focus Area: Nutrition and Weight Status** *(22 Objectives)*

### **Summary Categories**

**Healthier Food Access**

**Weight Status**

**Food Insecurity**

**Food and Nutrient Consumption**

**Iron Deficiency**





# Emerging Issues in Diabetes

The importance of diabetes and its comorbidities will increase as the population ages.

Diabetes treatment must take into account overall health status of the individual.

DPP lifestyle intervention had its greatest impact in older adults in all racial and ethnic groups.

In addition to its more familiar complications, evidence is emerging that diabetes is associated with:

- Cognitive impairment
- Incontinence
- Fracture risk
- Cancer risk and prognosis



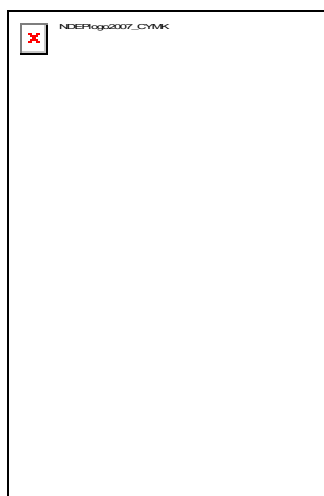
## **Clinical Recommendations Are Available from...**

"US Preventative Services Task Force

"National Diabetes Education Program

"National Kidney Disease Education Program

"The American Diabetes Association





## *Tandem NDEP Resources:* **Small Steps. Big Rewards. Your GAME PLAN to Prevent Type 2 Diabetes Health Care**



***Provider Toolkit***



***Patient Toolkit***



# ***Guiding Principles***

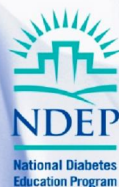
Guiding Principles

NATIONAL  
for Diabetes Care:

DIABETES  
For Health Care

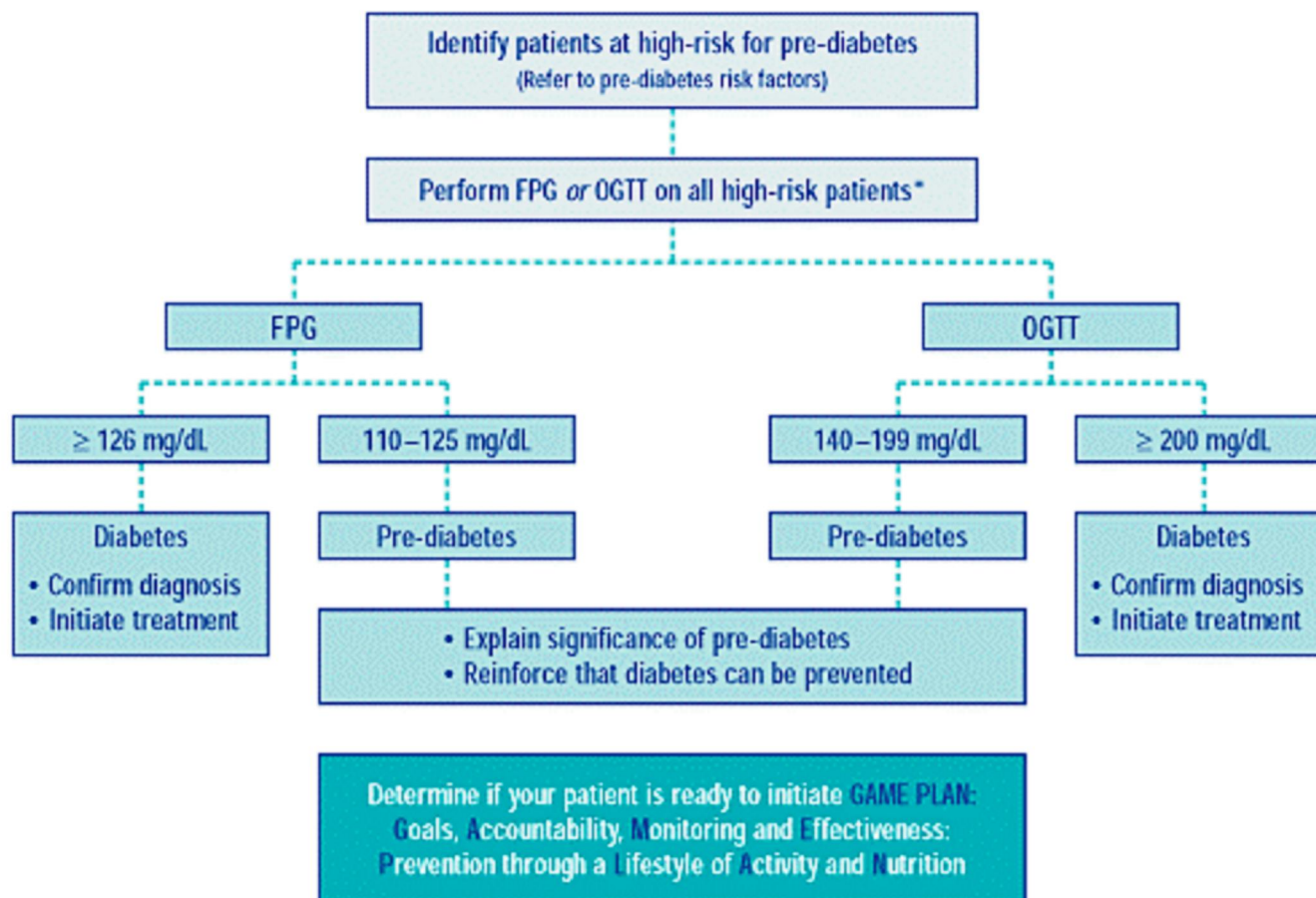
EDUCATION  
Professionals

PROGRAM





## DECISION PATHWAY



\*Even with an FPG  $< 110$ , a percentage of persons with IGT and diabetes will be missed. See page 13.



# New Diagnostic Criteria for Pre-diabetes and Diabetes

	A1c	Fasting Plasma Glucose Test (FPG)	2-Hour Oral Glucose Challenge
Acceptable	<5.7%	Below 100 mg/dl	Below 140 mg/dl
Pre-diabetes	5.7% - 6.4%	100-125 mg/dl (IFG)	140-199 mg/dl (IGT)
Diabetes	≥ 6.5%	126 mg/dl or above	200 mg/dl or above

*American Diabetes Association. Diabetes Care 2011; 34;(Suppl.1):S11-61.*

## HP2020 Objective D5



# Diabetes Numbers At-a-Glance

NATIONAL DIABETES EDUCATION PROGRAM (NDEP)

## Diabetes

Numbers At-a-Glance 2011†

For non-pregnant adults

### Criteria for Diagnosis of Diabetes\*

- (1) A1C<sup>††</sup>  $\geq$  6.5% or
- (2) Fasting plasma glucose  $\geq$  126 mg/dl or
- (3) 2-hr plasma glucose  $\geq$  200 mg/dl post 75g oral glucose challenge or
- (4) Random plasma glucose  $\geq$  200 mg/dl with symptoms (polyuria, polydipsia, and unexplained weight loss)

\*For criteria 1-3: Repeat test to confirm unless symptoms are present. It is preferable that the same test be repeated for confirmation. If two different tests are used (e.g., FPG and A1C) and both indicate diabetes, consider the diagnosis confirmed. If the two different tests are discordant, repeat the test above the diagnostic cut point.

### Criteria for Pre-diabetes\*\*

- (1) Fasting plasma glucose 100 – 125 mg/dl [Impaired fasting glucose (IFG)] or
- (2) 2-hr post 75g oral glucose challenge 140 – 199 mg/dl [Impaired glucose tolerance (IGT)] or
- (3) A1C<sup>††</sup> 5.7% – 6.4%

\*\*For all tests, risk of diabetes is continuous, extending below the lower limit of the range and becoming disproportionately greater at higher ends of the range.

### Treatment Goals: the ABCs of Diabetes\*\*\*

**A1C<sup>††</sup>** < 7% for many people

Preprandial capillary plasma glucose 70 – 130 mg/dl

Peak postprandial capillary plasma glucose < 180 mg/dl  
(usually 1 to 2 hr after the start of a meal)

**Blood pressure** (mmHg)

Systolic < 130 for most people

Diastolic < 80

**Cholesterol – Lipid Profile** (mg/dl)

LDL Cholesterol < 100

HDL Cholesterol Men > 40, Women > 50

Triglycerides < 150

\*\*\*Individualize target levels. For example, consider:

- A1C target as close to normal as possible without significant hypoglycemia in people with short duration of diabetes, little comorbidity, and long life expectancy.
- Less stringent A1C target for people with severe hypoglycemia, limited life expectancy, extensive comorbid conditions, advanced complications, or in longstanding diabetes where the general goal is difficult to attain despite optimal efforts.
- Higher or lower systolic blood pressure targets maybe appropriate based on patient characteristics and response to therapy.

See source materials for treatment recommendations.

† While utilizing American Diabetes Association Standards of Medical Care, Diabetes Care 34 (Suppl. 1): S11-S61, 2011, NDEP recognizes that guidelines from other groups may vary reflecting the limitations and complexity of the evidence base.

†† A1C testing for diagnostic purposes should be performed in a laboratory using a method that is NGSP certified. Point of care A1C tests should not be used for diagnosis. Be alert to the impact of hemoglobin variants on A1C values. See [www2.niddk.nih.gov/variants](http://www2.niddk.nih.gov/variants) for information.



# Guiding Principles for Diabetes Care

## Principle 4: Provide Patient-Centered Care

- Manage A1C levels to reduce the risk of diabetes complications.
- Control b.p. and cholesterol and stop smoking to lower risk for long-term diabetes complications.
- Patient is key member of healthcare team: work together to reach individualized diabetes management plan.
  - ❖ Life expectancy, risk of hypoglycemia and the presence of advanced diabetes complications, or other medical conditions inform care plan

# **Early Intervention in Diabetic Nephropathy: Implications for Clinical Practice**



## **Diabetic Kidney Disease (D-5: Increase annual urinary microalbumin measurement)**

- About 30 % of people with type 1 diabetes develop nephropathy.
- About 40 % of patients with type 2 diabetes develop nephropathy.
- Once developed, diabetic nephropathy shows a relentless progression to end stage unless effective intervention is provided.



# Summary and Implications for Clinical Practice

- Untreated, diabetic nephropathy follows a relentless course to end stage.
- New data provide evidence that the use of an AII receptor blocker, such as Losartan, retards progression of DN to end stage, and suggest reduction of cardiovascular complications of ESRD.



# ***Progression of Diabetic Nephropathy***

*Renal Function  
(GFR, ml/min)*

100

*Time*

*Protein  
concentration*

*GFR*

*Proteinuria*



*Micro  
albuminuria*



## D-5 Improve glycemic control among people with diabetes

- D-5.1 **Reduce** the proportion of the diabetic population with an A1c value greater than 9 percent
- D-5.2 **Increase** the proportion of the diabetic population with an A1c value less than 7 percent





## D16: Increase prevention behaviors in people at high risk for diabetes

*D16 derives from results of the landmark Diabetes Prevention Program (DPP) clinical trial*

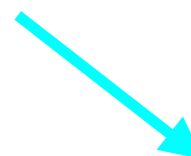
*Eligible participants*



*Randomized*



*Standard lifestyle recommendations*



*Intensive  
Lifestyle  
(n = 1079)*

*Metformin  
(n = 1073)*

*Placebo  
(n = 1082)*

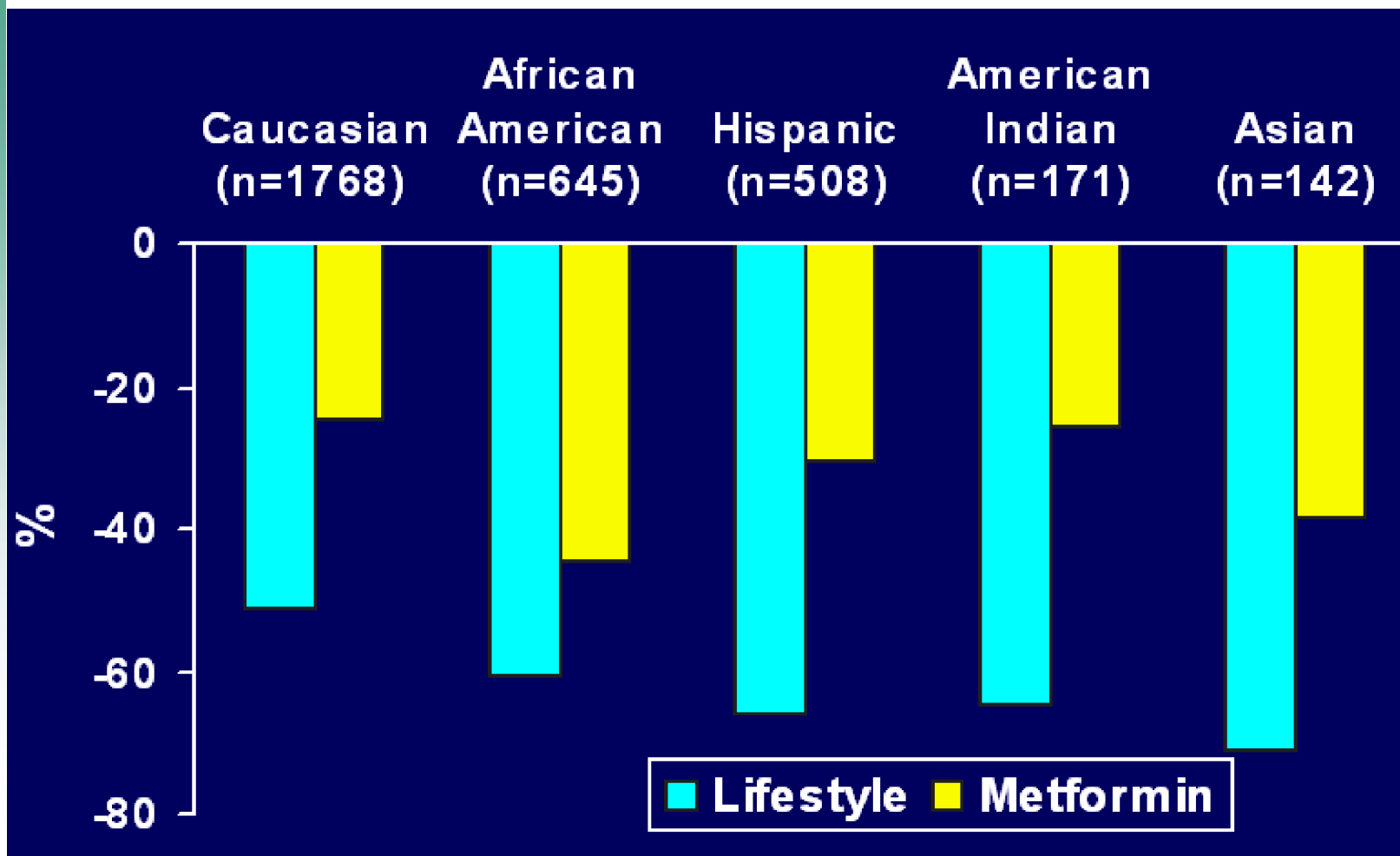


# Effect of Treatment on Incidence of Diabetes

	<u>Placebo</u>	<u>Metformin</u>	<u>Lifestyle</u>
<u>Incidence</u> of diabetes (percent per year)	11.0%	7.8%	4.8%
<u>Reduction</u> in incidence compared with placebo	----	31%	58%
<u>Number needed to treat</u> to prevent 1 case in 3 years	----	13.9	6.9



# Diabetes risk reduction by race-ethnicity compared with placebo





# Healthy People 2020

*It is clear that diabetes and associated nutrition and weight status need to be managed with continuous, proactive, planned care rather than episodic, illness-focused care. Changing the way we deliver health care can help develop the infrastructure we need to provide the quality care that we all strive for. HP2020 sets the path and provides the targets.*

